

REMARKS

In the last Office Action, claims 9, 13 and 19 were objected to as containing informalities. Claims 1-4, 7, 9-13 and 15-20 were rejected under 35 U.S.C. §102(b) as being anticipated by Aoshima (US 6,099,478). Claims 5-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aoshima in view of Lijima (US 2004/0116786).

In accordance with the present response, original independent claims 1 and 11 have been amended to incorporate the subject matter of dependent claims 2-3 and 12-13, respectively, and to further patentably distinguish from the prior art of record. Original claims 1, 4-7, 9-11 and 15-20 have also been amended to overcome the objections and in formal respects to improve the wording and bring them into better conformance with U.S. practice. Claims 2, 3, 12 and 13² have been canceled without prejudice or admission. New claims 21-26 have been added to provide a fuller scope of coverage. A new abstract which more clearly reflects the invention to which the amended and new claims are directed has been substituted for the original abstract.

Applicants request reconsideration of their application in light of the foregoing amendments and the following discussion.

² Claims 8 and 14 were canceled in the second preliminary amendment filed August 18, 2006.

The present invention is directed to an organism information detecting apparatus, an organism processing server for communication with the organism information detecting apparatus, an organism information detecting system having the organism information detecting apparatus and the organism processing server, an organism information processing method, a motion state determining method, a reliability degree determining method, and computer program products having instructions for causing a computer to execute a motion state determining function and a reliability degree determining function, respectively.

As described in the specification, conventional organism information detecting apparatus has been unable to detect, measure and process organism information of a subject in a reliable manner and without the necessity of expensive equipment (e.g., multiple detecting, measuring and processing devices) for performing these functions.

The present invention overcomes the drawbacks of the conventional art. Figs. 1-7 show an exemplary embodiment of an organism information detecting apparatus 1 according to the present invention embodied in the claims. The apparatus 1 includes detecting means (e.g., 11, 12, 16) configured to come into contact with a subject for detecting organism information of the subject for a predetermined sampling time period, determining a motion state of the subject when the organism information is detected, and outputting an organism signal. The apparatus 1 further includes first calculating means 18 for processing the

organism signal to calculate organism information data, the detecting means determining a reliability degree of the organism information data based on whether the determined motion state of the subject is a previously determined motion state. The apparatus 1 also includes second calculating means 19 for calculating an average value of the amount of variation per time of data obtained by digitizing the organism signal, the average value being data supplementary to the organism information data, and the detecting means determining the motion state of the subject based on whether the supplementary data exceeds a previously determined threshold. The apparatus 1 further includes storing means 23 for storing the organism information data and the supplementary data such that the organism information data and the supplementary data are associated with one another.

By the foregoing construction and corresponding functions, the present invention provides an organism information detecting apparatus by which organism information, a reliability degree of organism information data corresponding to the organism information, and a related motion state of a subject can be detected, measured and processed in an efficient manner and without the requirement of multiple detecting, measuring and processing devices.

Applicants respectfully submit that amended claims 1, 4-7, 9-11, 15-20 and new claims 21-26 patentably distinguish from the prior art of record.

Claims 1, 4, 7, 9-11 and 15-20 were rejected under 35 U.S.C. §102(b) as being anticipated by Aoshima. Applicants respectfully traverse this rejection.

Amended independent claim 1 is directed to an organism information detecting apparatus for detecting organism information of a subject. Amended claim 1 requires the following components: detecting means configured to come into contact with a subject for detecting organism information of the subject for a predetermined sampling time period, determining a motion state of the subject when the organism information is detected, and outputting an organism signal; first calculating means for processing the organism signal to calculate organism information data, the detecting means determining a reliability degree of the organism information data based on whether the determined motion state of the subject is a previously determined motion state; second calculating means for calculating an average value of the amount of variation per time of data obtained by digitizing the organism signal, the average value being data supplementary to the organism information data, and the detecting means determining the motion state of the subject based on whether the supplementary data exceeds a previously determined threshold; and storing means for storing the organism information data and the supplementary data such that the organism information data and the supplementary data are associated with one another. No corresponding structural and functional combination is disclosed or described by Aoshima.

Thus amended independent claim 1 requires detecting means for detecting organism information of the subject as well as a motion state of the subject based on whether data that is supplementary to organism information data exceeds a previously determined threshold, and as well as a reliability degree of the organism information data based on whether the determined motion state of the subject is a previously determined motion state. Aoshima does not disclose or describe an organism information detecting apparatus including a single detecting means that performs the foregoing detecting functions relating to the organism information of the subject, a motion state of the subject, and a reliability degree of organism information data, as recited in amended independent claim 1. More specifically, Aoshima discloses a pulse counter and a pulse display method via which a pulsation number for a subject and the body motion of the subject are detected by separate and independent detecting means, such as pulse wave detecting means 101 and body motion detecting means 102 (Fig. 1), respectively. Furthermore, Aoshima does not disclose or describe the specific functional relationships between the motion state and reliability determination functions as recited in amended independent claim 1.

Since Aoshima does not disclose or describe the foregoing structure and corresponding functions recited in amended independent claim 1, Aoshima does not anticipate amended independent claim 1. Furthermore, Aoshima does not suggest the claimed subject matter and, therefore, one ordinarily skilled in

the art would not have been led to modify the reference to attain the claimed subject matter.

Amended independent claims 9 and 10 are directed to an organism information processing server and an organism information detecting system, respectively. Each of amended independent claims 9 and 10 requires motion state determining means for determining a motion state of the subject when the organism information is detected based on whether the supplementary data exceeds a previously determined threshold, and reliability degree determining means for determining a reliability degree of the organism information data associated with the supplementary data based on whether the motion state determined by the motion state determining means is a previous determined motion state. No corresponding features are disclosed or suggested by the prior art of record at least as set forth above for amended independent claim 1.

Amended independent claims 11, 15 and 16 are directed to an organism information processing method. Amended claim 11 requires the steps of: bringing the organism information detecting apparatus into contact with a subject to detect the organism information of the subject for a predetermined sampling time period, determine a motion state of the subject when the organism information is detected, and output an organism signal; processing the organism signal to calculate organism information data, a reliability degree of the organism information data being determined based on whether the determined motion state of the

subject is a previously determined motion state; calculating an average value of the amount of variation per time of data obtained by digitizing the organism signal, the average value being data supplementary to the organism information data, and the motion state of the subject being determined based on whether the supplementary data exceeds a previously determined threshold; and storing the organism information data and the supplementary data such that the organism information data and the supplementary data are associated with one another. Each of amended claims 15 and 16 requires the step of determining a motion state of the subject when the organism information is detected based on whether the supplementary data exceeds a previously determined threshold, and the step of determining a reliability degree of the organism information data associated with the supplementary data based on whether the motion state is a previously determined motion state. Again, no corresponding features are disclosed or suggested by the prior art of record at least as set forth above for amended independent claim 1.

Amended independent claim 17 is directed to a motion state determining method of determining a motion state of a subject and requires the steps of acquiring data by digitizing an organism signal during a previously determined sampling time period outputted by the organism information detecting means, calculating an average value of a variation amount per time of the data, and determining the motion state of the subject when the organism information is detected based on whether the average

value of the variation amount exceeds a previously determined threshold. No corresponding combination of steps is disclosed or suggested by Aoshima.

Amended independent claim 18 is directed to a reliability degree determining method and requires the steps of acquiring data by digitizing an organism signal during a previously determined sampling time period outputted by the organism information detecting means, calculating an average value of a variation amount per time of the data, determining a motion state of the subject when the organism information is detected based on whether the average value of the variation amount exceeds a previously determined threshold, and determining a reliability of the organism information based on whether the motion state is a previously determined motion state. No corresponding combination of steps is disclosed or suggested by Aoshima.

Amended claims 19 and 20 are directed to a computer program product having instructions for causing a computer to realize a function of determining a motion state of a subject (claim 19) and realize a function of determining a reliability of organism information of a subject (claim 20). Amended claim 19 recites that the instructions cause the computer to read the digital data, calculate an average value of a variation amount per time of the digital data, and determine the motion state of the subject when the organism information is detected based on whether the average value of the variation amount exceeds a

previously determined threshold. Amended claim 20 recites that the instructions cause the computer to read the digital data, calculate an average value of a variation amount per time of the digital data, determine the motion state of the subject when the organism information is detected based on whether the average value of the variation amount exceeds a previously determined threshold, and determine a reliability degree of the organism information based on whether the motion state is a previously determined motion state. Again, no corresponding combination of steps is disclosed or suggested by Aoshima.

Claims 4 and 7 depend on and contain all of the limitations of amended independent claim 1 and, therefore, distinguish from Aoshima at least as set forth above for amended independent claim 1.

In view of the foregoing, applicants respectfully request that the rejection of claims 1, 4, 7, 9-11 and 15-20 under 35 U.S.C. §102(b) as being anticipated by Aoshima be withdrawn.

Claims 5-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Aoshima in view of Lijima. Applicants respectfully traverse this rejection.

Aoshima does disclose or suggest the subject matter of amended independent claim 1 as set forth above for the rejection under 35 U.S.C. §102(b). Claims 5 and 6 depend on and contain all of the limitations of amended independent claim 1 and,

therefore, distinguish from Aoshima at least as set forth above for amended independent claim 1.

The secondary reference to Lijima has been cited for its disclosure of power source controlling means (claim 5) and communication means and schedule executing means (claim 6) and corresponding functions recited in claims 5 and 6. However, Lijima does not teach the structural and functional combination of the organism information detecting apparatus recited in amended independent claim 1, from which claims 5 and 6 depend, including the structure and corresponding functions of the detecting means as well as the specific relationships between the motion state and reliability determination functions. Accordingly, Lijima does not cure the deficiencies of Aoshima, and one ordinarily skilled in the art would not have been led to modify the references to attain the claimed subject matter.

In view of the foregoing, applicants respectfully request that the rejection of claims 5 and 6 under 35 U.S.C. §103(a) as being unpatentable over Aoshima in view of Lijima be withdrawn.

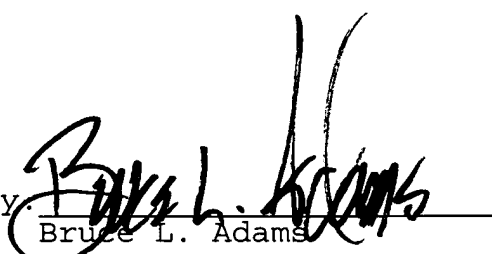
Applicants respectfully submits that new claims 21-26 also patentably distinguish from the prior art of record.

Claims 21-25 and 26 depend on and contain all of the limitations of amended independent claims 1 and 11, respectively, and, therefore, distinguish from the prior art of record at least as set forth above for amended independent claims 1 and 11.

In view of the foregoing, the application is now believed to be in allowable form. Accordingly, favorable reconsideration and passage of the application to issue are respectfully requested.

Respectfully submitted,

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Date